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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,728	05/14/2001	Eldad Zeira	I-2-170.2US	8653
24374	7590	04/27/2005	EXAMINER	
VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			JAIN, RAJ K	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,728

Applicant(s)

ZEIRA ET AL.

Examiner

Raj K Jain

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/5/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/16/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillinger et al (US006519240B1) hereafter referred to as Dillinger in view of Alamouti et al (US005933421A) hereafter referred to as Alamouti.

Regarding claim(s) 1, 6 and 11, Dillinger discloses a hybrid wireless time division multiple access/code division multiple access communications system whereby the communications means between base station and mobile stations is performed and managed by at least one RNM device for allocating radio resources (see col 3 lines 41-62 and Fig 1), the wireless system comprises of:

- providing a time slot sequence of the set of time slots (see abstract, col 2 lines 50-55 and Fig 2, the TDMA frame is split into plurality of "timeslots" of equal duration and thus sequential timeslots allocated to a base station or mobile station in turn form a "sequence of timeslots", furthermore one time slot of a TDMA frame on one modulated carrier is referred to as a physical channel.);

- ordering the new user service physical channels for each of the new user service physical channels (see col 2 lines 55-67, col 5 lines 35- col 6 lines 20, Figs 5 and 6, claim 1, the ordering and/or channel allocation is carried out in the base station

depending upon network resources and the signal to noise ratios as determined by the RNM device); and

- assigning the new user service physical channels to the set of time slots based on the ordering and the time slot sequence (see col 5 lines 35- col 6 lines 20, Figs 5 and 6, claim 1, the channel allocation and assignment is carried out in the base station based on signal to noise ratios for each of the timeslots, if an adequate signal-to-noise ratio is found within a timeslot sequence set than a timeslot or channel is allocated to the mobile station).

Dillinger fails to disclose channel or timeslot allocation based on reception quality of the user.

Alamouti discloses channel or timeslot allocation based on reception quality of the user (see col 22 lines 43-64 and Table 1.3).

Channel allocation using received signal strength indicator (RSSI), or reception quality minimizes interference for that channel and thus lowering overall network interference (signal to noise ratio) within a given frequency band.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Alamouti within Dillinger of channel allocation based on reception quality of the user which would improve the network performance by lowering overall network interference (signal to noise ratio) within a given frequency band.

Regarding claims 2, 7 and 12, Alamouti discloses channel or timeslot allocation based on reception quality of the user (see col 22 lines 43-64 and Table 1.3), order can be performed based on signal to noise ratios (reasons for combining same as above).

Regarding claims 3, 8 and 13, Alamouti discloses desired reception quality in terms signal to interference ratio (see col 22 lines 43-64 and Table 1.3).

Regarding claims 4, 9 and 14, Alamouti discloses channel or timeslot allocation based on reception quality of the user (see col 22 lines 43-64 and Table 1.3).

Regarding claims 5, 10 and 15, Dillinger discloses a TDD hybrid wireless system, which is limited by the number of slots or physical channels per slot, and therefore the assignment of transport channels is limited as well.

Response to Arguments

Applicant's arguments filed January 5, 2005 have been fully considered but they are not persuasive.

With respect to claims 1, 6 and 11, Applicant contends neither Dillinger nor Alamouti discloses or teaches in assigning physical channels and using a desired reception quality for the assignment of the physical channels.

Dillinger discloses channel allocation and assignment carried out in the base station based on signal to noise ratios for each of the timeslots within a TDMA wireless system, if an adequate signal-to-noise ratio (SIR) is found within a timeslot sequence set than a timeslot or channel is allocated to the mobile station (see col 5 lines 35- col 6 lines 20, Figs 5 and 6). It is common knowledge in the art the use of SIR as one of

many parameters used for determining link quality or reception quality based on interference criteria's within a wireless and/or wireline communications system. However, Dillinger fails to "clearly" point out channel or timeslot allocation based on reception quality of the user by taking into consideration the SIR values.

Alamouti discloses channel or timeslot allocation based on reception quality of the user (see col 22 lines 43-64 and Table 1.3) with two separate parameters SIR and received signal strength indicator.

Channel allocation using received signal strength indicator (RSSI), or reception quality minimizes interference for that channel and thus lowering overall network interference (signal to noise ratio) within a given frequency band.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Alamouti within Dillinger of channel allocation based on reception quality of the user which would improve the network performance by lowering overall network interference (signal to noise ratio) within a given frequency band.

Thus, since Dillinger and/or Alamouti do teach assigning physical channels and using a desired reception quality for the assignment of the physical channels, therefore, claims 1, 6 and 11 stand rejected.

Furthermore, claims 2-4, 7-10 and 12-15 which depend directly from one or more of the independent claims and their limitations having been addressed in the cited references therefore these claims stand rejected.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj Jain whose telephone number is 571-272-3145. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

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R. Jan

RJ

April 19, 2005


WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER